

ABSTRACT OF THE INVENTION

A landing collar is disclosed which defines a sealed cavity around its periphery. The landing collar has a seat to accept a sphere. Upon application of pressure on the sphere, the pressure rises on fluid in the chamber which surrounds the landing collar. At a predetermined pressure in the chamber, a rupture disc breaks which allows the fluid in the chamber to escape through a restrictor, thus regulating the rate of movement of the landing collar to expose gradually a bypass opening around the landing collar. Because the movement of the landing collar is regulated by the orifice adjacent the rupture disc, shock to the formation below is eliminated. In the event of sticking of the landing collar, an emergency release is possible since the landing collar is configured in two parts which can be pinned together. Upon an application of pressure higher than the pressure to break the rupture disc, the shear pins fail and a portion of the landing collar with the sphere disconnects to allow communication to the formation below.